NOTE: *FOR INFORMATION ONLY. CONTRACTOR MAY AT HIS OPTION DEVIATE FROM THESE PROCESS DETAILS

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVAL
A1	REVISED & REDRAWN	16 DEC. 59	62482-PCS-W.S1 DAB

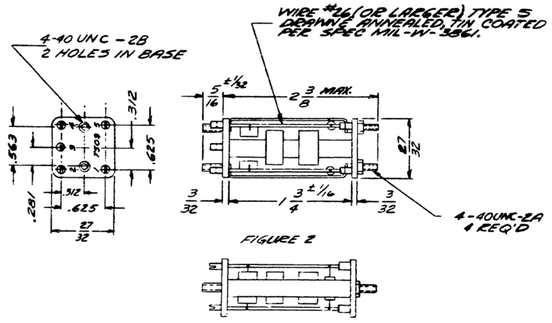

FIGURE 2

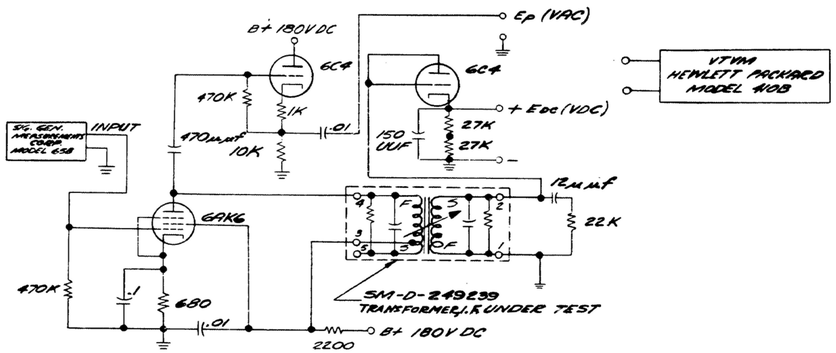

FIGURE 3
TEST CIRCUIT

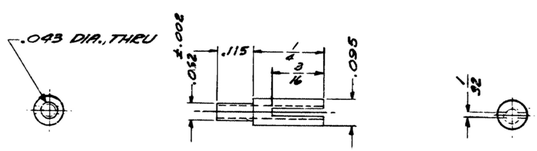

FIGURE 1
TERMINAL LUG
SCALE 4/1

ALL RESISTORS ARE IN OHMS, UNLESS OTHERWISE SPECIFIED.
ALL CAPACITORS ARE IN μF, UNLESS OTHERWISE SPECIFIED.

NOTES:

1. PART MAY BE NO. 24B205206 AS SUPPLIED BY STEWART-WARNER ELECTRONICS, CHICAGO, ILL. OR EQUAL, PROVIDING IT MEETS THE FOLLOWING REQUIREMENTS AND DIMENSIONS SHOWN.

DESCRIPTION: 455 KC DOUBLE TUNED I.F. TRANSFORMER.

ELECTRICAL CHARACTERISTICS:

CENTER FREQUENCY: 455 KC

Q:

PRIMARY Q: THE PRIMARY Q SHALL EQUAL 28 ±10% WHEN MEASURED ON BOONTON Q-METER TYPE 160A, AS SUPPLIED BY BOONTON RADIO CORP., BOONTON, N.J. OR EQUAL, WITH TERMINAL 5 AND SHIELD CAN GROUNDED. A RESISTOR MAY BE CONNECTED ACROSS THE COIL TO BRING THE Q WITHIN THE PRESCRIBED LIMITS.

SECONDARY Q: THE SECONDARY Q SHALL BE 65 ±20% MEASURED ON A BOONTON Q-METER TYPE 160A, AS SUPPLIED BY BOONTON RADIO CORP., BOUNTON, N.J. OR EQUAL, WITH TERMINAL 1 AND THE SHIELD CAN GROUNDED. A RESISTOR MAY BE CONNECTED ACROSS THE COIL TO BRING THE Q WITHIN THE PRESCRIBED LIMITS.

COUPLING: CRITICAL, ±10%, MEASURED IN THE TEST CIRCUIT OF FIGURE 3.

PRODUCTION MEASUREMENT OF COUPLING: COUPLING SHALL BE DETERMINED USING THE TEST CIRCUIT OF FIG. 3.

$M = \sqrt{\frac{E_x}{E_y}} - 1 = 1, \pm 10\%$

E_x = EP WITH SECONDARY SHORTED.
E_y = EP WITH SECONDARY OPEN.
E_x & E_y MEASURED AT CATHODE FOLLOWER OUTPUT.

BANDWIDTH: 32 KC AT 3 DB DOWN. BANDWIDTH TOLERANCE, ±10%.

PRODUCTION MEASUREMENT OF BANDWIDTH: ADJUST GENERATOR TO CENTER FREQUENCY. ADJUST LEVEL TO A REFERENCE VALUE (ABOVE 5 VDC MEASURED ON A DC VTVM). VARY THE FREQUENCY TO VALUES ABOVE AND BELOW THE RESONANT FREQUENCY AT WHICH THE DC OUTPUT VOLTAGE DROPS TO 70% OF THE REFERENCE VALUE. BANDWIDTH IS DEFINED AS THE DIFFERENCE BETWEEN THE UPPER AND LOWER FREQUENCIES.

TAP: PRIMARY SHALL BE TAPPED AT 3.2% OF TOTAL WINDING (FROM COLD END). (FOR REFERENCE ONLY)

MATERIALS AND COMPONENTS:

SHIELD CAN: 29/32" X 29/32" OUTSIDE, .018" THICK, 2.044 ±.015 INSIDE DEPTH. ALUMINUM FINISH - E513 PER SPEC MIL-F-14072.

PHENOLIC:

TUBING: TORKRITE, AS SUPPLIED BY CLEVELAND CONTAINER CO., CLEVELAND, OHIO OR CONTRACTOR'S APPROVED EQUIVALENT: .283 IN. ±.003 IN. OD, TAPPED FOR 1/4 X 28 SHALLOW THREAD IN ACCORDANCE WITH NPA-11-55T.

SHEET STOCK: PLASTIC TYPE PBE-P PER SPEC MIL-P-3115.

CORE: THREADED CORE IN ACCORDANCE WITH NPA-11-55T. CARBONYL E BASIC MATERIAL, 1/4 X 28 SHALLOW THREAD, 3/8 LONG; PART MAY BE NO. 5101 AS SUPPLIED BY RADIO CORES INC., OAK LAWN, ILL. OR EQUAL. ALL POWDERED IRON PARTS SHALL BE IMPREGNATED TO WITHSTAND THE SERVICE CONDITIONS TEST LISTED BELOW.

TERMINALS -- DETAILED, BRASS, FINISH M311 PER SPEC MIL-F-14072. AS SUPPLIED BY: LERCO ELECTRONICS INC. BURBANK, CALIF.

CAPACITOR, COIL TUNING:

CM15E201G03 CAPACITOR SHALL BE IN ACCORDANCE WITH SPEC MIL-C-5 EXCEPT WHERE AMENDED: SILVER MICA, STYLE CM15, TOTAL CAPACITANCE 200 MMF ±2%, TEMPERATURE RANGE -55°C TO +125°C; AMENDED CHARACTERISTIC (E) -20 TO +100 PPM/°C. AS SUPPLIED BY: CORNELL-DUBILIER ELECTRIC CORP., 50. PLAINFIELD, NEW JERSEY OR EQUAL.

CC23NJ390G CAPACITOR SHALL BE IN ACCORDANCE WITH SPEC MIL-C-2C EXCEPT WHERE AMENDED: CERAMIC, STYLE CC22, TEMPERATURE COEFFICIENT -750 PPM/°C, TEMPERATURE COEFFICIENT TOLERANCE J, TOTAL CAPACITY 39 MMF ±2%; AMENDED TEMPERATURE RANGE -55°C TO +125°C. AS SUPPLIED BY: ERIE RESISTOR CORP., ERIE, PENN. OR EQUAL.

RESISTOR, COIL TUNING:

RC 20GF683J RESISTOR SHALL BE IN ACCORDANCE WITH SPEC MIL-R-11 : 68K OHMS ±5%, 1/2 WATT, COMPOSITION.

WIRE: 6 X 41 SNP LITZ WIRE, AS SUPPLIED BY CHICAGO WIRE INSULATING & MFG. CO., INC., CHICAGO, ILL. OR EQUAL.

IMPREGNATING: COILS SHALL BE IMPREGNATED WITH POLYSTYRENE LACQUER, TYPE POLYWELD 4912 AS SUPPLIED BY AMPHENOL ELECTRONICS CORP., CHICAGO, ILL. OR CONTRACTOR'S APPROVED EQUIVALENT.

MANUFACTURER'S RECOMMENDED INSTRUCTIONS FOR IMPREGNATING COIL:

A. DRY OUT COIL AT 100°C FOR MINIMUM OF 2 HOURS.
B. THIN POLYWELD TO BRUSHING CONSISTENCY AND APPLY ONTO COIL THOROUGHLY.
C. AIR DRY FOR 30 MINUTES OR BAKE DRY AT 50°C FOR 15 MINUTES.
D. REPEAT STEP B & C.

FUNGICIDAL MATERIALS: ALL ORGANIC MATERIALS SHALL BE FUNGUS INERT OR TREATED TO BE FUNGUS RESISTANT WITH VARNISH, TYPE 1, PER SPEC MIL-V-173.

MARKINGS: WINDINGS SHALL BE CONNECTED TO BASE TERMINALS AS INDICATED. CONTRACTOR'S PART NUMBER SHALL BE AFFIXED ON SIDE OF CASE IN A THOROUGHLY LEGIBLE MANNER. ALL CHARACTERS & MARKINGS IN VERTICAL GOTHIC, 3/32 INCHES HIGH IN ACCORDANCE WITH THE TEST REQUIREMENTS OF SPEC MIL-M-13231.
THE SYMBOL 7303 SHALL APPEAR ON THE TOP OF THE SHIELD CAN.

SERVICE CONDITION:

TEMPERATURE RANGE: -40°C TO +95°C, STORAGE TO -62°C.

HUMIDITY: UP TO 95% R.H.

STABILITY: THE RESONANT FREQUENCY OF THE TUNED CIRCUIT SHALL NOT VARY MORE THAN 2 KC OVER THE TEMPERATURE RANGE -40°C TO +95°C.

SERVICE CONDITIONS TEST: UNITS SHALL OPERATE WITHIN REQUIRED SPECIFICATION OVER ANY NORMAL COMBINATION OF SPECIFIED SERVICE CONDITIONS. UNITS SHALL SHOW NO EVIDENCE OF CORROSION OR MALFUNCTIONING AFTER SUBJECTION TO FIVE CYCLES NON-OPERATING OF HUMIDITY CYCLING SPECIFIED ON DWG SC-D-16286 PLUS 2 ½ HOUR DRYING PERIOD.

VIBRATION: THE UNIT SHALL BE SUBJECTED TO A VIBRATION TEST IN ACCORDANCE WITH MIL-STD-202, METHOD 201, 30 MINUTES IN EACH PLANE. AT THE CONCLUSION OF THE TEST, UNIT SHALL SHOW NO EVIDENCE OF BREAKAGE, PERMANENT DEFORMATION OR LOOSENING OF PARTS.

CORE TORQUE: CORE SHALL BE ADJUSTED USING TUNING TOOL NO. 8606 AS SUPPLIED BY GENERAL CEMENT CO., ROCKFORD, ILLINOIS OR EQUAL. RUNNING TORQUE SHALL BE 3/4 TO 6 INCH OUNCES FOLLOWING PRELIMINARY CONDITIONING AS FOLLOWS: ROTATE CORE 1/2 REVOLUTION IN EACH DIRECTION FROM CENTER FREQUENCY POSITION. RETURN TO CENTER FREQUENCY AND REPEAT FOR A TOTAL OF 5 CYCLES.

REQD	PART NO.	DESCRIPTION	MATL	MATL SPEC

LIST OF MATERIAL ~~24N205206~~

		UNLESS OTHERWISE SPECIFIED	~~COLLINS RADIO CO. CEDAR RAPIDS, IOWA~~	TRANSFORMER-IF.	DEPARTMENT OF THE ARMY SIGNAL CORPS ENGINEERING LABORATORIES
		DIMENSIONS ARE IN INCHES TOLERANCES ON FRACTIONS DECIMALS ANGLES ±1/64 ±.005	14214-PH-51-93		FORT MONMOUTH NEW JERSEY
			SIGNAL CORPS		
SM-D-343620	SC-DL-240775	Drawn By R.D.E.	REVIEWED PME		
SM-D-249818	SC-DL-248775	Checked By S.L.	APPROVED HLY PME		SM-D-249239
NEXT ASSY	USED ON	Circuit Drafts			
APPLICATION		Engr Approval	DATE 20 MAR 58	SCALE 1/1	

WHEN REFERRING TO THIS DRAWING STATE DRAWING NO., APPLICABLE ISSUE SYMBOL IF ANY, AND DATE.